

Course Syllabus  
University of Tokyo Lectures, November 2013  
***“Introduction to Observational Nuclear Astrophysics”***  
By  
***Prof. Dr. Roland Diehl,***  
*Professor at TU Munich, Germany, and*  
*Visiting Professor, NAOJ/Tokyo University*

**Aim:**

This is a 6-lecture graduate-level course presenting an introduction to the methods of observing nuclear processes and isotopes in cosmic objects, and the astrophysics questions addressed herein.

**Method of Lecture:**

Lectures will involve mainly slide presentations, supplemented by board work, with handouts provided.

**Evaluation Method:**

Evaluations will be made based upon asking questions and providing feedback during the lectures, and through a special question&answer session in the concluding lecture.

***Course Outline:***

- lecture-1: High-energy astrophysics terminology and questions
- lecture-2: Nuclear astrophysics processes and basic theory
- lecture-3: Detecting high-energy radiation: Principles, methods
- lecture-4: Instruments measuring X-, gamma-, and cosmic rays
- lecture-5: Stars and supernovae, nuclear processes therein
- lecture-6: Compositional evolution of interstellar gas in galaxies